

## **SECTION 15932 – AIR OUTLETS AND INLETS**

### **PART 1 – GENERAL**

#### **1.1 SUMMARY**

- A. Types of outlets and inlets required for project include the following:

1. Ceiling air diffusers.
2. Registers and grilles.

#### **1.2 SUBMITTALS**

- A. Submit manufacturers technical product data. Maintenance and operation data, including rated capacities of selected model clearly indicated, dimensions, required clearances, weights, furnished specialties, and accessories; and installation and startup instructions.

#### **1.3 QUALITY ASSURANCE**

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of air outlets and inlets of types and capacities required, whose products have been in satisfactory use in similar service for not less than 10 years.
- B. Codes and Standards:
1. ADC Compliance: Test and rate air outlets and inlets in certified laboratories under requirements of ADC 1062 "Certification, Rating and Test Manual". Provide air outlets and inlets bearing ADC Certified Rating Seal.
  2. AMCA Compliance: Test and rate louvers in accordance with AMCA bearing AMCA Certified Rating Seal.
  3. NFPA Compliance: Install air outlets and inlets in accordance with NFPA 90A "Standard for the Installation of Air Conditioning and Ventilating Systems."

### **PART 2 – PRODUCTS**

#### **2.3 CEILING AIR DIFFUSERS**

- A. General: Provide manufacturer's standard ceiling air diffusers of size, shape, capacity and type indicated and as required for complete installation.
- B. Ceiling Compatibility: Provide diffusers with border styles that are compatible with adjacent ceiling systems, and that are specifically manufactured to fit into ceiling module with accurate fit and adequate support. Refer to general construction drawings and specifications for types of ceiling systems which will contain each type of ceiling air diffuser.

- C. Types: Provide ceiling diffusers of type, capacity, and with accessories and finishes as listed on diffuser schedule. The following requirements shall apply to items when indicated by manufacturer and model number on schedule.
1. Diffuser Faces:
    - a. Square: Square housing, core of square concentric louvers, square or round duct connection.
    - b. Linear: Extruded aluminum or galvanized steel continuous slot, single or multiple. Adjustable deflector vanes to adjust flow direction without moving plenum. Provide full internal insulation. Provide U. L. fire rating when installed in rated ceilings.
  2. Diffuser Mountings:
    - a. Stepped-Down: Diffuser housing below ceiling with perimeter flange and gasket to seal against ceiling construction.
    - b. Lay-In: Diffuser housing sized to fit between ceiling exposed suspension tee bars and rest on top surface of tee bar.
  3. Diffuser Patterns:
    - a. Fixed: Fixed position core with concentric rings or louvers for radial airflow around entire perimeter of diffuser.
  4. Diffuser Dampers:
    - a. Opposed Blade: Adjustable opposed blade damper assembly, key operated from face of diffuser.
    - b. Integral: Combination volume control and pattern adjustment for linear diffusers.
  5. Diffuser Finishes:
    - a. White Enamel: Semi-gloss white enamel prime finish.
- D. Manufacturers: Subject to compliance with requirements, manufacturers offering diffusers which may be incorporated in the work include, but are not limited to, the following:
1. Anemostat Products Div.; Dymanics Corp. of America.
  2. Cranes Co.; Div. Of Wehr Corp.
  3. Har & Collie (including Tuttle & Bailey).
  4. Krueger Mfg. Co.
  5. Titus Products Div.; Philips Industries, Inc.
  6. Nailor Industries, Inc.

## 2.2 REGISTERS AND GRILLES

- A. General: Provide manufacturer's standard registers and grilles; of size, shape, capacity and type indicated and as required for complete installation.
- B. Surface Compatibility: Provide registers and grilles with border styles that are compatible with adjacent surfaces. Refer to general construction drawings and specifications for types of wall construction which will contain each type of wall register and grille.
- C. Types: Provide registers and grilles of type, capacity, and with accessories and finishes as listed on register and grille schedule. The following requirements shall apply to nomenclature indicated on schedule:
1. Register and Grille Materials:
    - a. Steel Construction: Manufacturer's standard stamped sheet steel frame and adjustable blades.
    - b. Aluminum Construction: Manufacturer's standard extruded aluminum frame and adjustable blades.

2. Register and Grille Faces:
    - a. Horizontal Straight Blades: Horizontal blades, individually adjustable, at manufacturer's standard spacing.
    - b. Vertically Straight Blades: Vertical blades, individually adjustable, at manufacturer's standard spacing.
    - c. Horizontal 45 degrees, at manufacturer's standard spacing.
  3. Register and Grille Patterns:
    - a. Single Deflection: 1-set of blades in face.
    - b. Double Deflection: 2-sets of blades in face, rear set at 90 degrees to face set.
  4. Register and Grille Dampers:
    - a. Opposed Blade: Adjustable opposed blade damper assembly, key operated from face of register.
  5. Register and Grille Finishes:
    - a. White Enamel: Semi-gloss white enamel prime finish.
- D. Manufacturers: Subject to compliance with requirements, manufacturers offering registers and grilles which may be incorporated in the work include, but are not limited to, the following:
1. Anemostat Products Div.; Dynamics Corp. of America.
  2. Carnes Co.; Div. Of Wehr Corp.
  3. Hart & Coolie (including Tuttle & Bailey).
  4. Krueger Mfg. Co.
  5. Titus Products Div.; Philips Industries, Inc.
  6. Nailor Industries, Inc.

## PART 3 – EXECUTION

### 2.3 INSTALLATION

- A. General: Install air outlets and inlets in accordance with manufacturer's written instructions and in accordance with recognized industry practices to insure that products serve intended function.
- B. Coordinate with other work, including ductwork and duct accessories, as necessary to interface installation of air outlets and inlets with other work.
- C. Locate ceiling air diffusers, registers, and grilles, as indicated on general construction "Reflected Ceiling Plans". Unless otherwise indicated, locate units in center of acoustical ceiling module.

END OF SECTION 15932